

FIG. 2

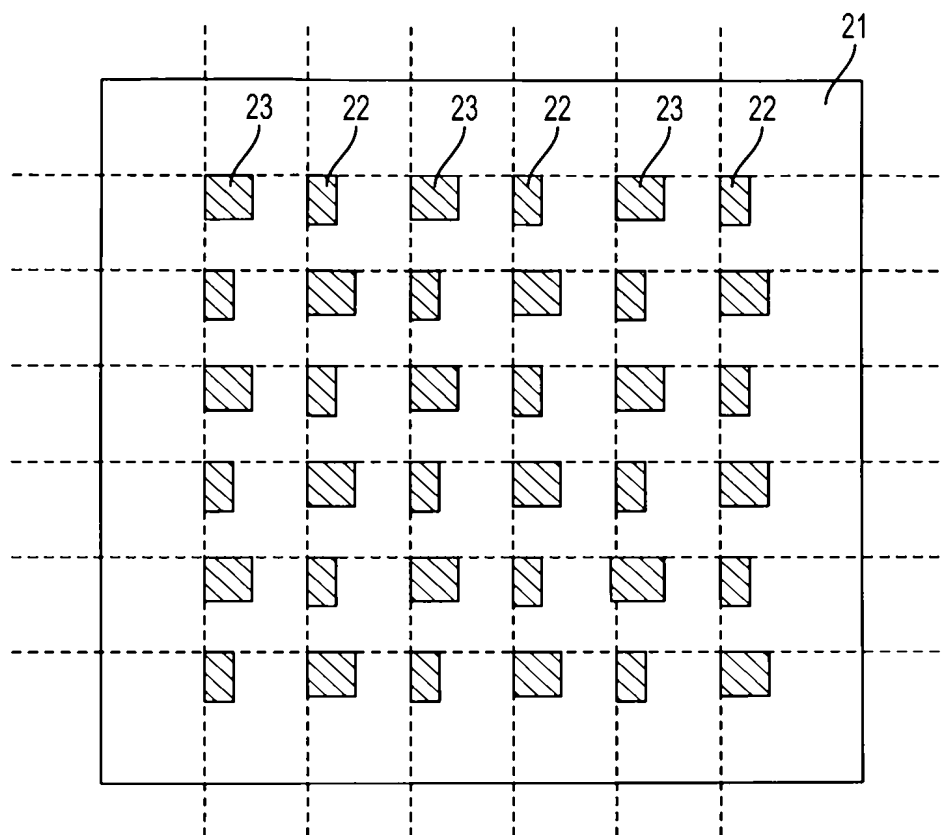


FIG. 3(a)

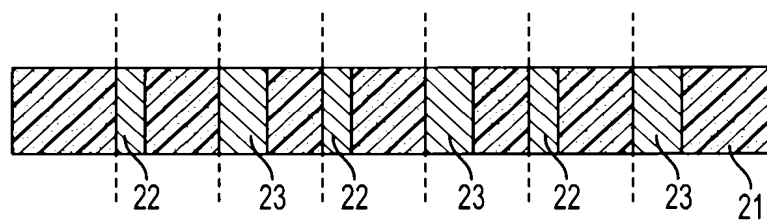


FIG. 3(b)

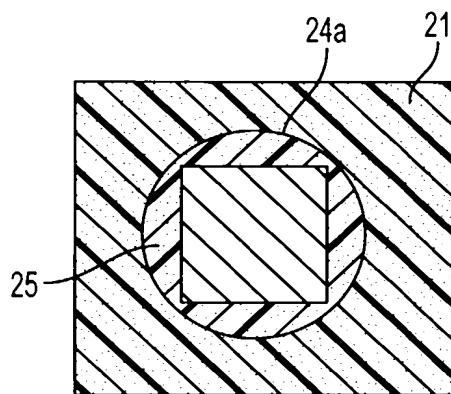


FIG. 4(a)

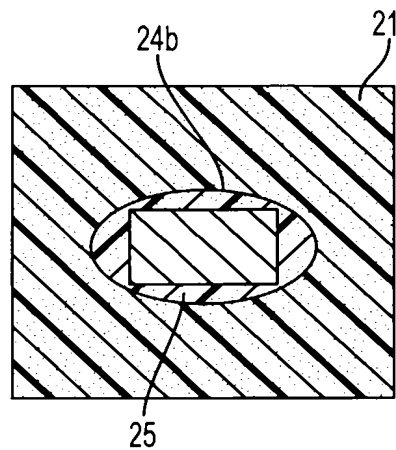


FIG. 4(b)

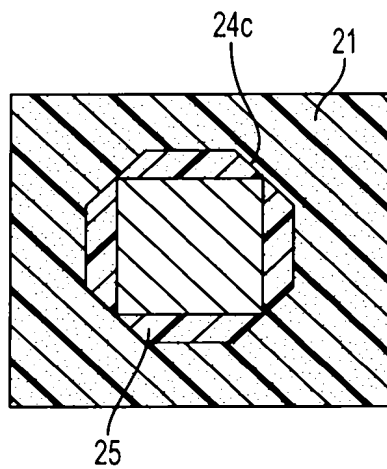


FIG. 4(c)

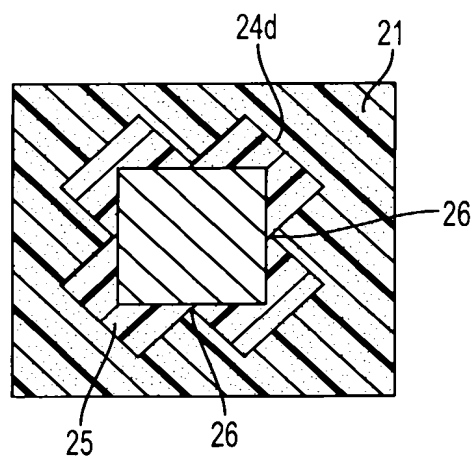


FIG. 4(d)

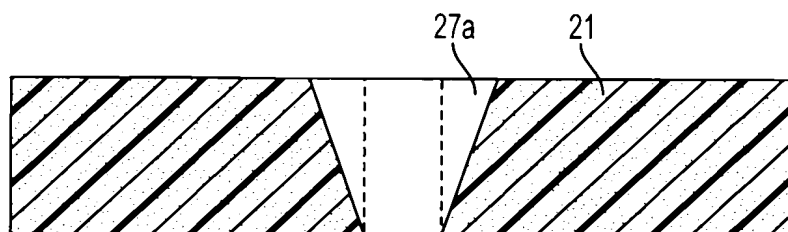


FIG. 5(a)

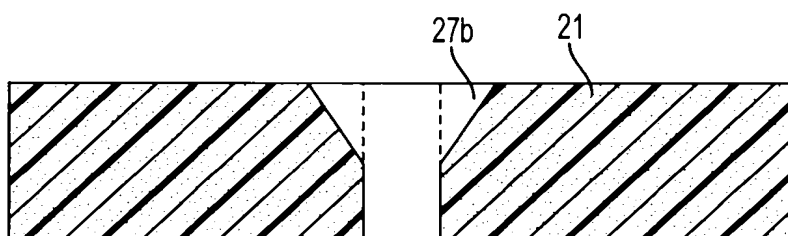


FIG. 5(b)

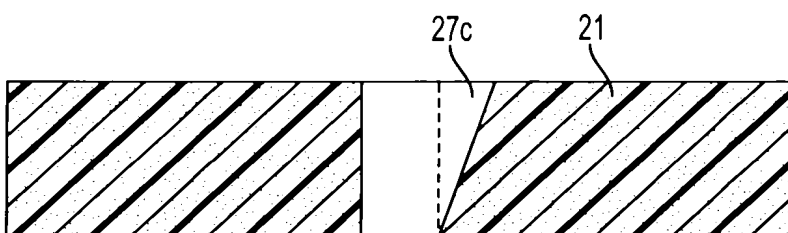
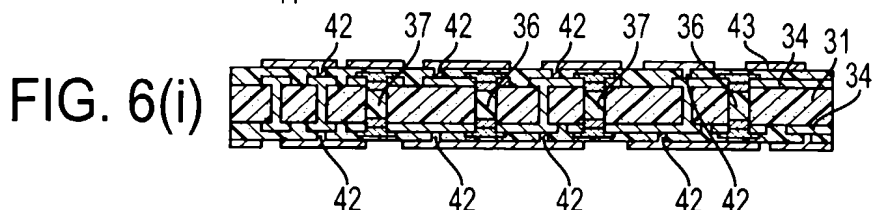
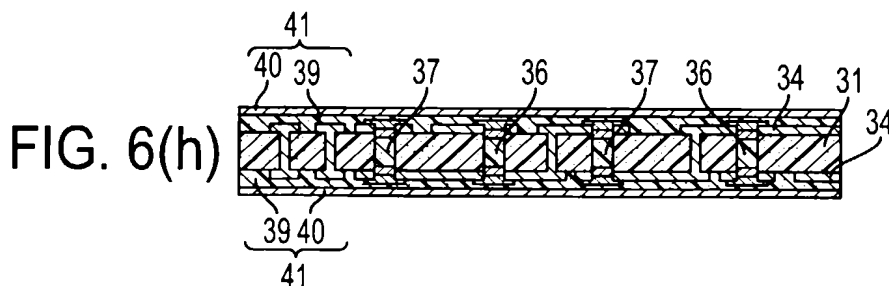
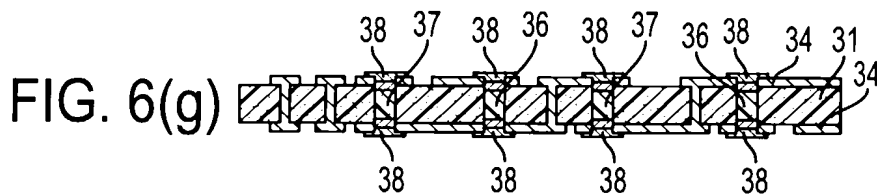
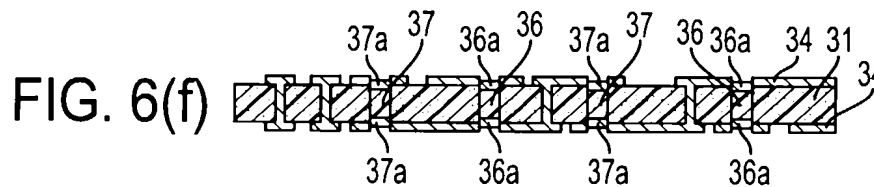
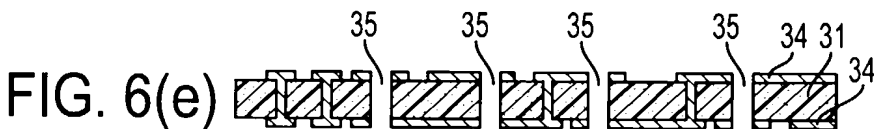
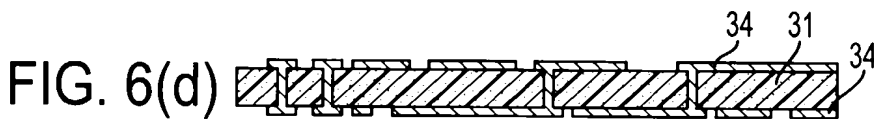
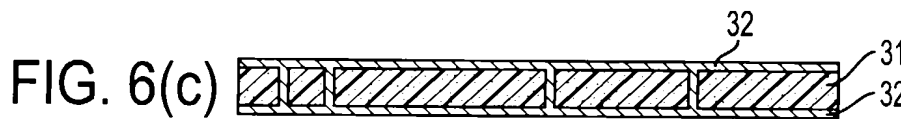
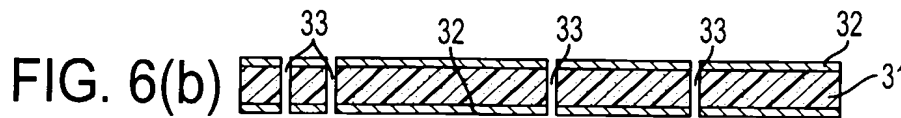
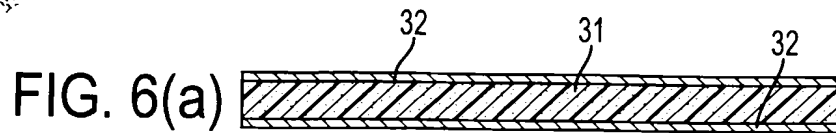


FIG. 5(c)



DOUBLE-SIDED COPPER
LINING SUBSTRATE

FORM
THROUGH-HOLE

PLATE
THROUGH-HOLE

ETCH
PATTERN

FORM COMPONENT-
INSERTING-HOLE

INSERT
COMPONENT

FORM
CONNECTION ELECTRODE

FORM PRE-PREG LAYER
(ON BOTH SIDES)

FORM THROUGH-HOLE,
ETCH SURFACE PATTERN

OFFICE
MAY 05 2003
PATENT & TRADEMARK OFFICE

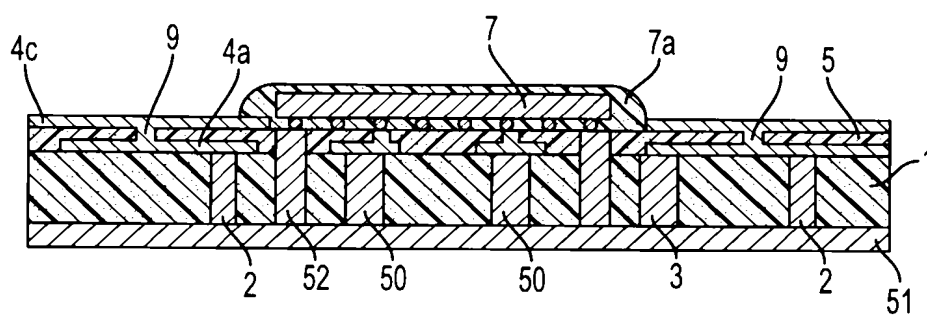


FIG. 7

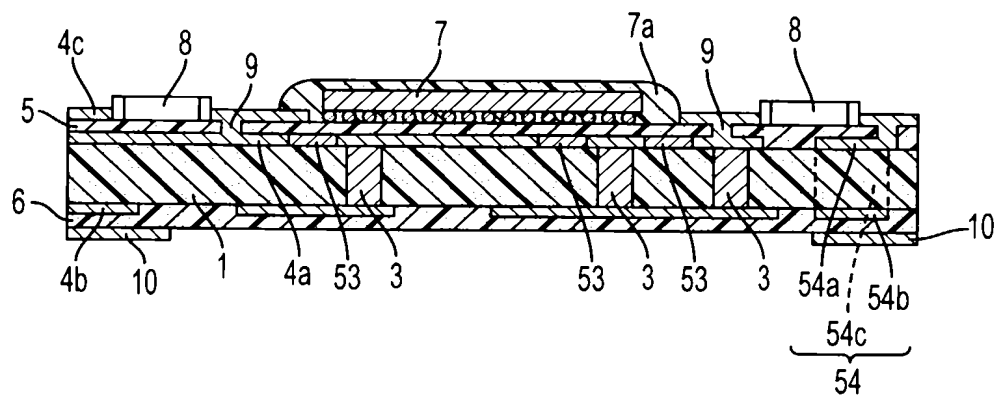
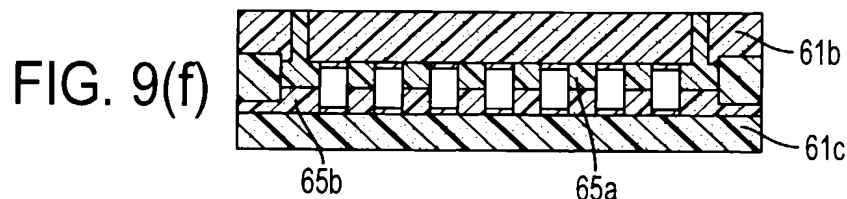
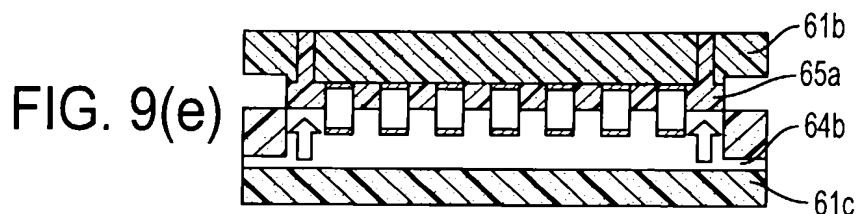
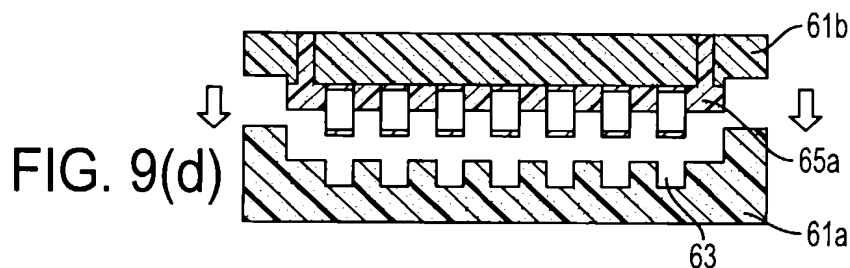
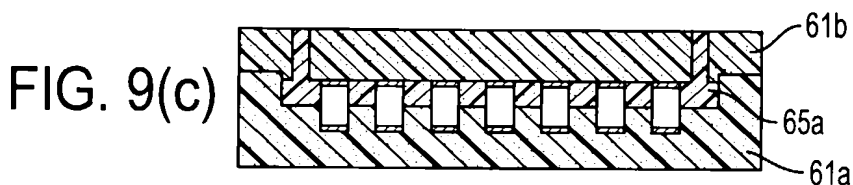
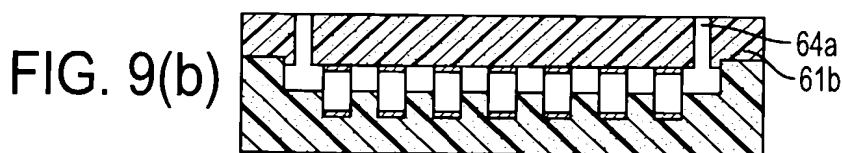
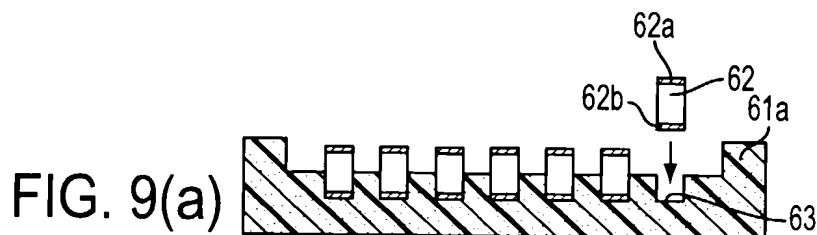


FIG. 8



INSERT
CHIP COMPONENT

DIE-FORM
PRIMARY MOLDING

PRIMARY
MOLDING

PEEL OFF CHIP-COMPONENT-
INSERTING-SIDE DIE

DIE-FORM
SECONDARY MOLDING

SECONDARY
MOLDING

PEEL OFF DIE,
FORM COMPONENT

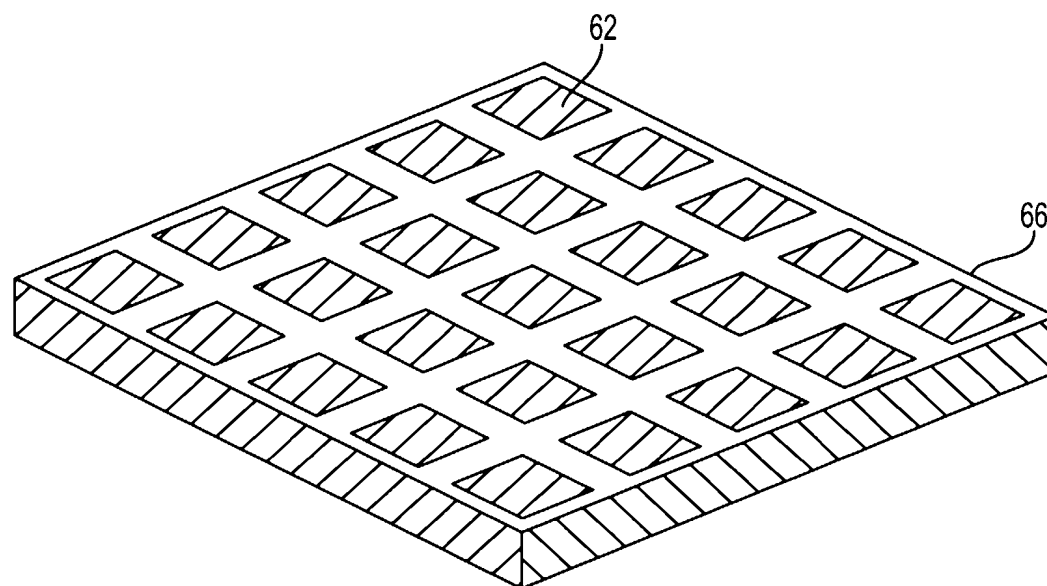


FIG. 10

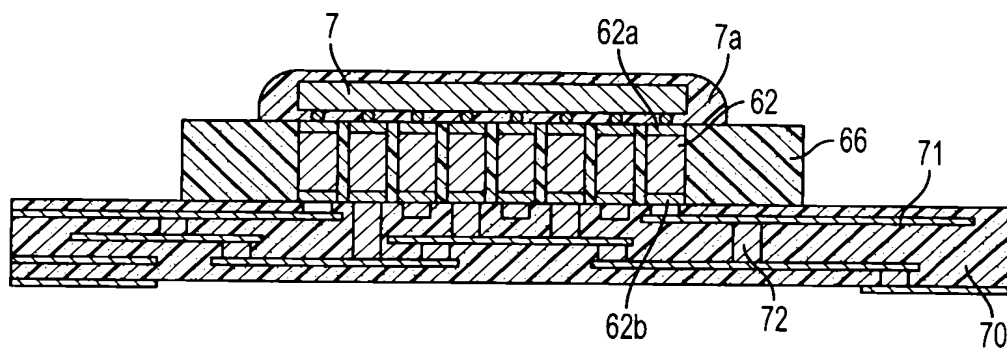


FIG. 11(a)

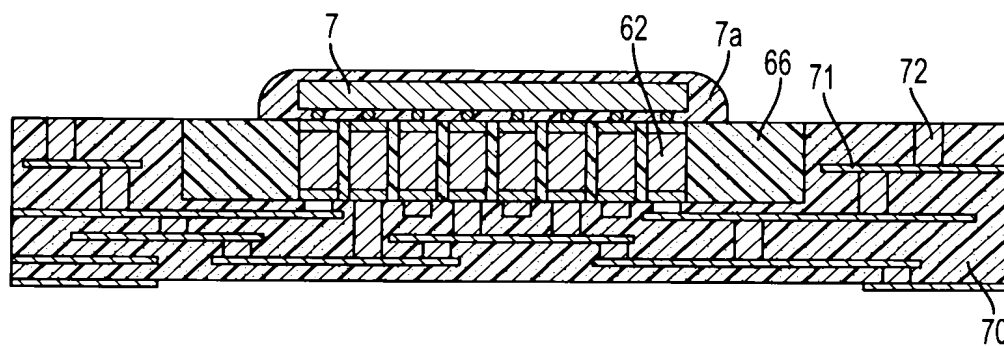


FIG. 11(b)

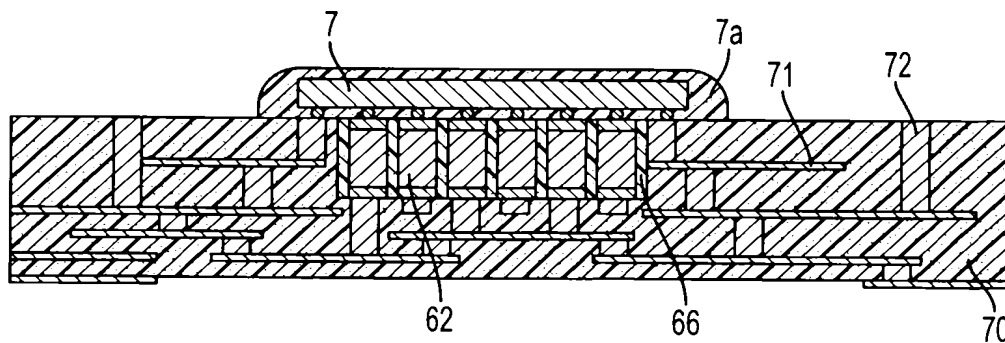


FIG. 11(c)

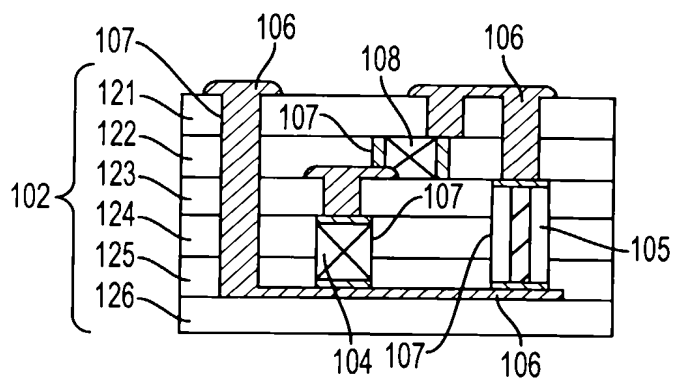


FIG 12(a)
(PRIOR ART)

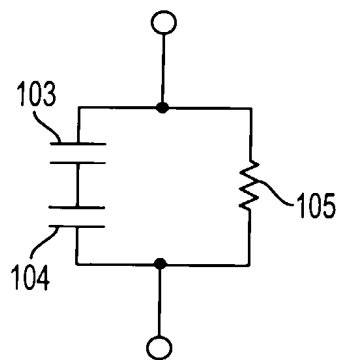


FIG 12(b)
(PRIOR ART)